

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A process for dissolving actinic oxides, the process comprising performing the steps of:
 - (a) introducing the actinic oxides into a solution of nitric acid;
 - (b) treating the acidic solution in order to substantially remove palladium; and
 - (c) treating with divalent silver.
2. (Currently Amended) A The process ~~as claimed in~~ of claim 1 which additionally comprises performing the steps of:
 - (a) further treating the acidic solution in order to substantially remove palladium; and
 - (b) further treating with divalent silver.
3. (Currenty Amended) A The process ~~as claimed in~~ of claim 1 ~~or 2~~ wherein the actinic oxides comprise mixtures of UO_2 and PuO_2 or the mixed oxide $(\text{U}, \text{Pu})\text{O}_2$.
4. (Currently Amended) A The process ~~as claimed in~~ of claim 3 wherein the actinic oxide has a U:Pu ratio in the region of 95:5.
5. (Currently Amended) A The process ~~as claimed in~~ of claim 3 wherein the actinic oxide has a U:Pu ~~ratio~~ ratio in the region of 75:25.

6. (Currently Amended) A The process ~~as claimed in any one of claims 1 to 5~~ of claim 1 wherein the actinic oxides are comprised in spent nuclear fuel.
7. (Currently Amended) A The process ~~as claimed in any of one of claims 1 to 6~~ of claim 1 wherein the actinic oxides are in the form of a solid, a slurry or suspension.
8. (Currently Amended) A The process ~~as claimed in any preceding~~ of claim 1 wherein the treatment to substantially remove palladium comprises treatment by solvent extraction.
9. (Currently Amended) A The process ~~as claimed in~~ of claim 8 wherein said solvent extraction comprises extraction with triaurylamine, Alamine 336 in combination with tributyl phosphate and kerosene, a dialkyl sulphide or an organic phosphine sulphides or its derivative.
10. (Currently Amended) A The process ~~as claimed in any one of claims 1 to 7~~ of claim 1 wherein the treatment to substantially remove palladium comprises ion exchange.
11. (Currently Amended) A The process ~~as claimed in any one of claims 1 to 7~~ of claim 1 wherein the treatment to substantially remove palladium comprises denitration of the system by the addition of formic acid to cause palladium to precipitate from solution as the metal.
12. (Currently Amended) A The process ~~as claimed in any preceding~~ of claim 1 wherein the nitric acid is provided as an aqueous solution at a concentration of 4M to 12M.
13. (Currently Amended) A The process ~~as claimed in~~ of claim 12 wherein the concentration is 6M to 8M.
14. (Currently Amended) A The process ~~as claimed in any preceding~~ of claim 1 wherein the temperature of the nitric acid is maintained in the region of 10-50°C.
15. (Currently Amended) A The process ~~as claimed in~~ of claim 14 wherein the temperature is maintained in the region of 20-40°C.
16. (Currently Amended) A The process ~~as claimed in any preceding~~ of claim 1 wherein the treatment with divalent silver comprises an electrolytic dissolution process.

17. (Currently Amended) A The process ~~as claimed in~~ of claim 16 wherein the process comprises the addition of a source of monovalent silver to the system and treatment in an electrolyser to electrolytically regenerate divalent silver.

18. (Currently Amended) A The process ~~as claimed in~~ of claim 17 wherein the source of monovalent silver is silver nitrate.

19. (Currently Amended) A The ~~process as claimed in any preceeding~~ of claim 1 wherein the treatment with divalent silver is carried out at a temperature between 5° and 50°C.

20. (Currently Amended) A The process ~~as claimed in~~ of claim 19 wherein said temperature is between 15° and 40°C.

21. (Currently Amended) A The process ~~as claimed in~~ of claim 20 wherein said temperature is between 20° and 30°C.

22. (Currently Amended) A The process ~~as claimed in any preceeding~~ of claim 1 wherein the steps of the process are carried out in either a batchwise or a continuous fashion.